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CHEN-CHU MATILDA CHEN, BANG NGUYEN, T.C. MELEWAR, AND CHARLES DENNIS

Investigating the Uses of Corporate Reputation and its Effects on Brand Segmentation, Brand Differentiation and Brand Positioning Evidence from the Taiwanese Pharmaceutical Industry

Abstract: *This study advances current knowledge on building a brand strategy that includes corporate reputation. It employs three theories – value creation, strategic resources and corporate communication – to study the uses of corporate reputation and its effect on brand segmentation, brand differentiation and brand positioning. In the context of the Taiwanese pharmaceutical industry, a sequential mixed method approach is applied and data are analyzed using PLS SEM. Findings demonstrate the relative impacts of three uses of corporate reputation (value creation, strategic resources and corporate communication) on brand image strategy (brand segmentation, brand differentiation and brand positioning) and the implications are evaluated. This study discovers that the inclusion of medicine prices is necessary and that it negatively moderates the impact of the overall uses of corporate reputation on overall brand image strategy. This research contributes empirically as one of the few that tests reputation-and-branding-building models outside the USA and Europe.*

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A firm's reputation not only enhances the value of corporate image (Fombrun 1996), but it also has an effect on other organizational functions, such as brand advertising (Gianfranco and Beatty 2007; Gotsi and Wilson 2001). Yet, despite its importance, researchers argue that the issue of brand reputation in industrial markets has received little attention relative to that accorded to it in consumer markets (Han et al. 2015; Mukherjee and Balmer 2007; Simoes et al. 2005). Given the importance of a firm's reputation, it is worthwhile to investigate the concept further in order to harmonize with existing research (e.g., Low and Blois 2002; Varadarajan et al. 2006). The present study explores the *uses* of corporate reputation and its relationship with brand image, brand segmentation, brand differentiation, and brand positioning.

To date, few studies have theoretically investigated how firms use their corporate reputation to enhance their brand image strategy in terms of brand segmentation, differentiation and positioning in a single, comprehensive study. Based on this assertion and focusing on the Taiwanese pharmaceutical industry, the question that will be addressed throughout this research shall be: *How do Taiwanese pharmaceutical companies use their corporate reputations to develop their brand segmentation, differentiation and positioning strategy?* The research explores how firms can use their corporate reputation to enhance their overall brand strategy and it has two main research objectives: (1) To develop a model that explains the effects of the uses of corporate reputation in pharmaceuticals on the brand image strategy (segmentation, differentiation and positioning) of brand managers; and (2) To empirically test the model in a

non-Western setting in order to examine the external validity (i.e. the applicability of these theories in other contexts) of Western-developed theories. This includes the assessment of the dimensionality and operationalization of key constructs.

The purpose of using the pharmaceutical research context stems from the observation that pharmaceutical companies require a good reputation to survive. Pharmaceuticals are encouraged to develop a good reputation for their quality of product and services, innovativeness, honest communication and environmental responsibilities (Achilladelis and Antonakis 2001; Fombrun and Shanley 1990). In turn, these factors can also be converted subconsciously into the brand image of the products that belong to a company (Panigyrakis and Veloutsou 1999). Because a firm's corporate reputation tends to highly influence the initiation of brand strategy decisions and brand scene-setting in pharmaceutical companies (Nakra 2000), this context provides an excellent context for the present study.

In addition, existing literature shows that the majority of previous studies about the uses of corporate reputation have been completed in Western countries (the USA, the UK, Germany, Australia, Japan, Germany and the Netherlands, etc.) and focus less on investigating the topic in other regions (e.g. Asia, Africa, or South America), which have therefore limited any generalisability of theory (Boyacigiller and Adler 1991; Trompenaars and Hampden-Turner 1998). The present study aims to test these theories in the Taiwanese context to advance current knowledge on building a brand strategy for firms. Using their corporate reputation to create or align with their brand image strategy thus offers practical insights to managers and academics alike.

Hypotheses development

The main construct of this study, that is the uses of corporate reputation, consists of three dimensions, namely, value creation, strategic resources and corporate communication (Chen et al. 2015). First, the uses of corporate reputation as a *value-creation* tool include promising good quality products and services to customers, reducing transaction costs and sending signals to its customers. Second, the uses of a firm's corporate reputation as a *strategic resource* include use as a competitive advantage, as a strategic value or resource, and development of good financial performance. Third, the uses of corporate reputation as a *communication* tool include shaping the perception of shareholders and stakeholders, influencing consumer choices and building a relationship between the firm and its customers. This framework has been developed by summarizing and synthesizing the works of a number of scholars (e.g., Fombrun and Shanley 1990; Sabate and Puente 2003) who have previously studied the uses of corporate reputation.

< Insert Figure 1 About Here >

Value creation and brand image strategy

The value provided by a firm to a customer is judged during the customer purchasing process. Therefore, the value creation ability of a firm is deeply related to the relationship with its customers and influences the perception of its customers. In essence, the resource-based theory (Grant 1991; Peteraf 1993) provides a general approach for a firm to find its core value. The resource-based theory suggests that a firm can achieve superior returns by exploiting internal resources and capabilities. Corporate reputation is commonly used by a firm as a strategic resource (Roberts and Dowling 2002) or as a tool for the development of organizational value (Smith 1994). Since corporate reputation cannot be bought and is not easy to imitate or substitute, it is therefore regarded as an asset for a firm (Barney 1986; Bromley 2002).

The value-based theory underlines the following hypotheses. Theory aims to better understand the intentions and mind-interaction in consumers when they try to evaluate the benefits that can be derived from a brand or a product. Incorporating the customer value-based theory of the firm makes it easier to understand a firm's management strategy (Slater 1997). Such a focus is understandable for an effective management strategy nowadays because market forces predominantly drive strategic decision-making (Cravens 1998). Specifically, Schwartz and Bilsky (1987) claim that values are cognitive representations of universal human requirements: biological needs, social interactional requirements and social institutional demands on the individual. Subsequently, some scholars – Parasuraman (1997) and Woodruff (1997) – proposed that a thorough understanding is needed to clarify the complexities of customer value perceptions, the processes for customer value monitoring and the processes for leveraging the firm knowledge. These help to validate the strategy the managers follow by creating, developing, and delivering value to the customers (Flint 2004).

Human values have been increasingly used as a basis for market segmentation (Kamakura and Novak 1992). Flint (2004) argues that customer valued-based strategy resides in segmentation, branding, positioning, integrated marketing communication, professional selling, advertising, pricing, product development and distribution/logistics strategies. It is further noted from the arguments above that the value system has been used by marketers to explain phenomena such as consumer behavior (Henry 1976), as well as strategic management (Flint 2004). Specifically, creating a value-based strategy relating to customers' gains enhances the reputation for a firm. It can thus be hypothesized that a firm with good corporate reputation as an intangible asset can benefit a firm by reducing transaction costs, indirectly creating value. Given this study's focus on the relationship between value creation and branding strategy, it is therefore proposed that:

- H1: Value creation as a dimension of the uses of corporate reputation has a positive impact on a firm's brand segmentation strategy.*
- H2: Value creation as a dimension of the uses of corporate reputation has a positive impact on a firm's brand differentiation strategy.*
- H3: Value creation as a dimension of the uses of corporate reputation has a positive impact on a firm's brand positioning strategy.*

Strategic resource and brand image strategy: influencing a competitor's actions/strategies

The inclusion of the resource-based view (RBV) of a firm may explain well our propositions presented below. The RBV has been extensively summarized in contemporary strategy literature (Mahoney 1995; Wernerfelt 1995). Barney (1991) defined resources as a bundle of assets, capabilities, organizational processes, firm attributes, information and knowledge. These resources can be broadly categorized as tangible and intangible and consist of financial, physical, legal, human, organizational, relational, technological and informational assets, skills and competencies. Resource-based scholars suggest that certain assets (tangible or intangible) with certain characteristics will lead to sustainable competitive advantage (Hooley et al. 1998). Resource-based theorists suggest that for a strategy to be sustainable it needs to be embedded in the firm's resources and capabilities. For example, Grant (2010) argues that rates of change in the external environment increase firms' abilities to base their long-term strategies on internal resources and capabilities rather than focus on external market forces. It is also proposed by Varadarajan and Jayachandran (1999) that organizational issues (e.g. corporate reputation) are relevant to management strategies such as branding, competitive behavior, positioning, and segmentation, and have an impact on quality management, marketing and business strategy (e.g. market orientation), and outcomes of a market strategy (e.g. market share, customer satisfaction).

Therefore, based on the resource-based theory (and market orientation), corporate reputation has been regarded by many researchers as a strategic resource of a firm (Wernerfelt 1995), which explains the rent-earning capability of resources (see Amit and Schoemaker 1993). This dynamic capability

approach examines how resources and capabilities are developed in a firm context (Mahoney 1995) and will also be developed into a competitive positioning strategy (Hooley et al. 1998). Hooley et al. (1998) reconcile the market orientation and resource-based view by developing a positioning strategy concept. While several main approaches to resources have been developed, previous researchers have predominantly investigated the strength of corporate reputation as a strategic resource of a firm. In this research, we follow this assertion to view corporate reputation as one of the firm's intangible assets. Given that the focus of the study is on the relationship between the strategic resource role of corporate reputation for the brand image strategy, it is thus proposed that:

H4: Strategic resource as a dimension of the uses of corporate reputation has a positive impact on a firm's brand segmentation strategy.

H5: Strategic resource as a dimension of the uses of corporate reputation has a positive impact on a firm's brand differentiation strategy.

H6: Strategic resource as a dimension of the uses of corporate reputation has a positive impact on a firm's brand positioning strategy.

Corporate communication: developing the relationship with its stakeholders and brand image strategy

Corporate communication directly influences consumer perception and creates competitive advantage for a company (Gray and Balmer 1998). Corporate reputation is used to communicate a firm's social responsibility activities to stakeholders within the business environment. For instance, although a medicine brand may have excellent medical performance, the manufacturer may use other forms of its firm's reputation to transmit a different image to their brands. Hence, it may select a representation of an experience with this pharmaceutical corporation as being 'safe' or trustable (e.g. "It was very reliable and can be trusted when I prescribed the medicine to my patient)."

Corporate reputation can be positioned to a specific target group that enhances the generation of better feedback from stakeholders within the business environment. According to an parallel school of thought (Fombrun and Shanley 1990), corporate reputation is developed on the basis of consumer perception. Therefore, managers portray corporate reputation as a benefit for the customers, because when they feel more secure about a firm's ability they will buy more. Moreover, a firm's reputation can influence customer choice. Studies observe that a corporate reputation helps customers to select the best choice among many alternatives in the market. Landon and Smith (1997) and Sabate and Puente (2003) also confirmed that corporate reputation is used by customers to make purchasing decisions. Corroborating this point of view, it is suggested that a good corporate reputation enables the generation of increased customer loyalty.

Several researchers have suggested that a firm's communications have a direct impact on setting the scene for segmenting and positioning a firm's product, either in direct marketing or in other service sectors. To be more specific, a firm's use of communication in any form (e.g. package design, logo design, distribution channel and salesperson) creates a platform to make their customers understand more about themselves and their products (or services), making it easier for brand managers to target their branding strategy to a clearly defined or segmented market group. Given that the focus of the study is on the uses of corporate reputation - and that shaping the perception of shareholders and stakeholders plays a role of communication in a company's branding strategy - it is proposed that:

H7: Corporate communication as a dimension of the uses of corporate reputation has a positive impact on a firm's brand segmentation strategy.

H8: Corporate communication as a dimension of the uses of corporate reputation has a positive impact on a firm's brand differentiation strategy.

H9: Corporate communication as a dimension of the uses of corporate reputation has a positive impact on a firm's brand positioning strategy.

Methodology

Research setting

Companies in a single industry were chosen as the setting for this research. Certain considerations led to this choice. First, the single-industry design provided the researchers with better control over market and environmental anomalies and industry effects. That is, a single industry is more focused on a particular manufacturing procedure, ways of marketing goods and maintaining customer relationships. Second, it was desirable to study a setting in which: (1) the three dimensions of the uses of corporate reputation could be explained and clearly measured; (2) corporate reputation plays an important role in the general operations and the survival of businesses; (3) previous research has identified the presence of various types of strategic use of a firm's intangible assets, communication and value creation activities, and (4) reliable and adequate data are available for the purification of measurement scales and hypothesis testing.

Given the factors described above, the pharmaceutical industry was chosen because reputation building is particularly important for it: medicines are considered vital for human life and thus corporate reputation plays an important role in the general operations and the survival of business. Furthermore, a pharmaceutical firm can use its reputation to signal its customers about its new technology, the standards they require or just to build trust with its customers. As a result they might get a higher price for their products. The managers in this industry make mainly strategic decisions on the use of a firm's intangible assets, its corporate communication and value-creation activities.

Furthermore, in order to test the validity of Western-developed theories, several researchers (e.g. Boyacigiller and Adler 1991; Peng and Shyi 1991) recommend collecting data in a non-Western country. Taiwan, one of the most dynamic business environments in Asia, was selected as the setting of this study for several reasons. First, Taiwan is culturally similar to its Asian neighbors (e.g. China) and clearly different from Western countries (Hofstede 1980), where most of the corporate reputation studies have been carried out. Second, Taiwan is one of the fastest-growing economies of the newly industrialized countries. Much of its growth has come from multinational companies and is also the home to the regional headquarters of many multinational companies in Asia. Third, Taiwan has a high credit rating internationally due to its stable and dynamic business environment (Economist Information Unit; EIU 2012). Finally, the values and norms of Taiwanese consumers have strong roots in Chinese folk religion, making Taiwan very different from the USA, UK, and other developed countries.

Qualitative data collection

Fourteen brand managers from pharmaceutical companies in Taiwan were used as respondents. The majority of the companies (81.25 per cent) and their respondents had a 31- to 50-year corporate history. The majority of the companies (75 per cent) had fewer than 100 employees. More than half (56.25 per cent) were original companies or dealers of European or American pharmaceuticals, and more than half (56.25 per cent) of the companies had less than 150 million TW dollars turnover. The interviewees answered the semi-structured interview questionnaire to gain a better perspective on the relationship between the hypotheses and related issues. They were able to provide information about how their firms' current situation affect their corporate strategy. In conducting the interviews, questions based on the measurement items of each construct were asked. For example, for the uses of corporate reputation construct, questions such as: "What do you think are the uses of corporate reputation dimensions?" and "Why?" were employed. Furthermore, *content* and *face validity* were also

examined in this step (Netemeyer et al. 2003). Specifically, respondents were asked to indicate their opinion on the clarity and comprehensibility of questionnaire items.

Following Miles and Huberman (1994), the researcher extracted items from interview data by using the data reduction and display functions in Nvivo 7 software. A coding scheme was designed based on literature and transcripts. Data were grouped according to relevant codes. Items were subsequently drawn from each group and compared with those obtained from the relevant literature. The information from the interviews was integrated with the items regenerated from the literature. The questionnaire statements for these items were then constructed by the researchers and a pilot test was conducted to test the research instrument.

The main study

Data collection method

The researchers started their investigation by contacting a relevant professional association to ask for its support and for more information about the Taiwanese pharmaceutical companies. The Taiwanese BNHI (Bureau of National Health Insurance) provided a list of contacts of its association members. The researchers contacted all the pharmaceutical companies in the Taiwanese pharmaceutical industry in the database to inform them about this research project and to confirm their current addresses.

Of the 200 overall targeted respondents, a total of 61 non-probability anonymous selected respondents were collected from an online survey. The quantitative questionnaires were collected through an online questionnaire website. In the first part of the questionnaire, respondents specified the background information of their firm, including company history, company size, and the service each company provided. Of the 61 companies that responded, 14 (23%) had company turnovers below US\$1.67 million, 15 (25%) had company turnovers over US\$16.67 million, and 32 (52%) had company turnovers between US\$1.67 million and US\$16.67 million. In addition, all participating companies employed fewer than 3,000 people. Therefore, 75% of the surveyed companies were categorized as small to medium-sized enterprises, which is the main characteristic of the Taiwanese business environment. Number (66%) of the surveyed companies had fewer than 100 employees, 21 (34%) had more than 100 employees and 7 (11%) had 300 employees.

With regard to the companies' age, there were three in the "less than 10 years" category, accounting for 4.92%, 36 in the "11–30 years", accounting for 59.02%, 16 in the "31–50 years" category, accounting for 26.23%, five in the "51–80 years" category, accounting for 8.20%, and one in the "more than 81 years" category, accounting for 1.64% (see Appendix A).

Measures

Constructs were derived from existing related concepts and scales published in various academic journals. In general, there are various developed measurement scales, all of which are a Likert type with management capabilities and operating performance. The researchers identified three domains for the construct of the uses of corporate reputation (value creation, strategic resources and corporate communication), and three domains for the construct of brand image strategy (brand segmentation, brand differentiation and brand positioning). The majority of measures focused on specific forms of support such as *value creation* (e.g. Devine and Halpern 2001; Eberl and Schwaiger 2005; Herbig et al. 1994), *strategic resources* (e.g. Roberts and Dowling 2002; Weigelt and Camerer 1988), and *corporate communication* (e.g. Gray and Balmer 1998).

Data analysis and results

Reliability and validity

The validity and reliability of the questionnaire were tested through confirmatory factor analysis (CFA) and Cronbach's coefficient as described below. In the measurement model, the results were as follows: "value creation scales" (Cronbach Alpha 0.938, Composite Reliability (CR) and the Average Variance Extracted (AVE) are 0.945 and 0.469 respectively); "value creation and resources scales" (Cronbach Alpha 0.955, CR and AVE 0.964 and 0.662 respectively); "corporate communication scales" (Cronbach Alpha 0.840, CR and AVE are 0.892 and 0.547 respectively); "brand positioning scales" (Cronbach Alpha 0.851, CR and AVE are 0.902 and 0.650 respectively); "brand differentiation scales" (Cronbach Alpha 0.874, CR and AVE are 0.909 and 0.590); and "brand segmentation scales" (Cronbach Alpha is 0.896, CR and AVE are 0.927 and 0.717). All factor loadings of the respective measurement indicators reached significance and all CRs and AVEs are both higher than 0.7 and 0.5. Therefore, the data analysis shows that the convergent validity of all the variables are within the acceptance range.

Medicine price scales

A new construct is suggested to act as a link between the relationship of the uses of corporate reputation and brand image strategy: namely, medicine price. In the measurement model of "medicine price scales," the Cronbach Alpha is 0.906, and the factor loadings of the respective measurement indicators have reached significance; the Composite Reliability (CR) and Average Variance Extracted (AVE) are 0.924 and 0.577 respectively, indicating the CR and AVE are both higher than 0.7 and 0.5. Therefore, the data analysis shows that the convergent validity of "medicine price scales" is within the acceptance range.

Discriminant validity analysis

The study was conducted in line with the two criteria of discriminant validity proposed by Gaski and Nevin (1985): the correlational coefficient between the two dimensions is less than 1; the correlational coefficients of the two dimensions are smaller than the individual Cronbach's reliability coefficients, indicating the two dimensions possess discriminant validity. In addition, following Fornell and Larcker (1981), a third criterion for determining the discriminant validity was also tested: the correlational coefficients of the two dimensions are smaller than the square root of AVE, indicating that the two dimensions possess discriminant validity. In this study, SPSS 15.0 and PLS 1.04 were used to analyze the correlation coefficient matrixes of the measurement variables. The data analysis results as shown in Table 1 are consistent with the three discriminant validity criteria mentioned above, indicating good discriminant validity.

< Insert Table 1 About Here >

Hypothesis testing

After testing the scale for reliability and validity, the hypothesized relationships were assessed. PLS (Partial Least Squares) was used at the expense of structural equation modeling (SEM), even though SEM is appropriate for simultaneously testing structural relationships among latent variables. With regard to the analysis procedures of PLS SEM, in this study the analysis proposed by Anderson and Gerbing (1988) was conducted.

As the PLS gives emphasis to the capabilities of the formative indicators and reflective indicators, the explanatory power of the model is represented by R square, which indicates an ability of the cause indicators to explain the potential variables. The size of the load value determines the strength of the respective indicators in affecting the dimensions, and the path coefficients are standardized estimation values in which their significance can be determined by the p-value obtained from the Bootstrapping analysis. The structural modeling analysis results in this study are as follows: in the structural model, the forecast variables are “value creation”, “strategic resources” and “corporate communication”, which were used to predict the dependent variables including “brand segmentation”, “brand differentiation” and “brand positioning”. In terms of the regression model, with “brand segmentation” as a dependent variable, the standardized value for “value creation” is 0.232 (t -value=1.537), the standardized value of “strategic resources” is 0.164 (t -value=1.521), the standardized value of “corporate communication” is 0.517 (t -value=3.679) and the model’s explanatory power R is 0.723. In terms of the regression model, with “brand differentiation” as a dependent variable, the standardized value of “value creation” is 0.334 (t -value=2.459), the standardized value of “strategic resources” is 0.143 (t -value=1.256), the standardized value of “corporate communication” is 0.477 (t -value=3.878) and the model’s explanatory power R is 0.783. In terms of the regression model, with “brand positioning” as a dependent variable, the standardized value of “value creation” is 0.327 (t -value=2.595), the standardized value of “strategic resources” is 0.363 (t -value=1.996), the standardized value of “corporate communication” is 0.278 (t -value=2.643) and the model’s explanatory power R is 0.808. A model with path values and t -values is shown in Figure 2.

< Insert Figure 2 About Here >

In this study, with “medicine price” as the regulatory variable, the effect of the uses of corporate reputation on brand image strategy was explored. The analysis results showed that the standardized estimate value of the uses of corporate reputation is 0.736 (t -value=11.444), the standardized estimate value of medicine price is 0.211 (t -value=3.223), the standardized estimate value of the regulatory effect variables between the uses of corporate reputation and brand image strategy is -0.177 (t -value=-3.068), while the explanatory power R of the model is 0.845. The findings show that medicine price has a negative moderating effect on the uses of corporate reputation in “brand image strategy”. In other words, the more recognized medicine price is, the less helpful its role will be in having an effect on the uses of corporate reputation in brand image strategy. The negative effect of medicine price on brand image strategy will interfere with the positive effect of the uses of corporate reputation in brand image strategy. A model of the moderating effect between the relationship of the uses of corporate reputation and brand image strategy is shown in Figure 3.

< Insert Figure 3 About Here >

In the second round analysis, based on Henseler et al. (2009), some items with a factor loading (absolute standardized outer loading) below 0.7 ($\approx \sqrt{0.5}$) were deleted. Chin (1998) describes R square values of 0.67, 0.33, and 0.19 in PLS path models as substantial, moderate and weak, respectively. Therefore, in this second round of analysis, it is shown that the R square values of BD, BP and BS are 0.6536, 0.7508 and 0.6633, respectively. The average value of R square is 0.689233, which, according to Chin’s (1998) description, is “substantial”.

Moderating effects

The second model analysis tested the moderating role on each hypothesis. In Table 2 (path coefficient of moderating effects), the moderating effects of medicine price (PP) for each construct of the uses of corporate reputation (VC, SR and CC) on each construct of brand image strategy (BP, BD and BS) are shown, and none of the moderating effects are supported. However, the medicine price is supported as a predictor of BS, which shared 26% of variance (beta value or standard estimation) and its t-value was 2.7803.

< Insert Table 2 About Here >

In the third round analysis, several items from the first- and second-round analyses were deleted to refine the model by reducing cross-loadings, which consequently increased the discriminant validity of the model (Fornell and Larcker 1981; Henseler et al. 2009). For example, BD2 (loading=0.77) was deleted because of its cross-loading with BS and CC (0.63 and 0.61, respectively); BD5 was deleted because of its cross-loading with BP, BS and SR; SR5 was deleted because of its cross-loading with BD, BP and CC; SR11 was deleted because of its cross-loading with BP; and VC16 was deleted because of its cross-loading with BS.

Finally, in the fourth round analysis, according to Barclay et al. (1995), a rule of thumb for robust PLS path modeling estimations, the sample size in the inner path model should be larger than “ten times the largest number of structural paths directed at a particular construct” (Henseler et al. 2009). Therefore, because of the small number of respondents, based on the previous model of analysis, we simplified the model by separating one model into three simpler models for the fourth round of analysis. Table 3 shows the results of the hypotheses testing.

< Insert Table 3 About Here >

Discussion

Theoretical contributions

This research contributes to existing literature on reputation and other fields in several ways. First, most studies in corporate reputation literature have concentrated on the general concept of corporate reputation theoretically rather than relating it to actual practice. This study contributes to existing knowledge by linking the theoretical corporate reputation theory with a firm’s strategic usage of it in practice. There is a lack of literature investigating the relationship between corporate reputation and branding issues (Worcester 2009). Although a few studies addressing the uses of corporate reputation have already been conducted (e.g., Davies and Chun 2002), they have been done without empirical evidence explicating the relationships between these constructs.

Second, this research advances current understanding about a generative process by which brand image strategy is formed and applied, with statistical evidence followed by the theory building. The current literature (e.g., Michell et al. 2001) has only conceptualized the direct impacts for each construct of the uses of corporate reputation on each brand image strategy, but none has empirically examined these relationships.

Third, no previous study has empirically examined the moderating effects involved in creating brand image strategy in the pharmaceutical practice. This study finds that medicine price negatively moderates the impact of the overall uses of corporate reputation on overall brand image strategy.

Fourth, the study provides partial evidence to a long-standing debate about how to construct the uses of corporate reputation. Some past studies suggest the link of corporate communication as one of several dimensions in the uses of corporate reputation. A firm’s corporate reputation can be used, as shown in the study, for corporate communication as it creates knowledge transfer, such as the communication of the sales staff to the customer, basic medical knowledge education, research outcomes updated, product information or effects revealed, and the newest research reported and delivered.

In terms of methodology, the major contribution of this study is that the research is one of a few that tests reputation-and-branding-building models outside of the USA and Europe. Reputation researchers (e.g., Roberts and Dowling 2002) have highlighted a global trend in reputation management and raised their concerns about the necessity for cross-cultural research. Other researchers in general have also been aware of the applicability of their theories across nations and have encouraged new studies to establish their external validity (e.g., Boyacigiller and Adler 1991; Peng and Shyi 1991). The research to some extent responds to those calls for global investigations by testing a reputation-building model in Taiwan, a country in Southeast Asia. Examining the model in this setting could render additional insights into the extant literature, because Taiwanese customers and their cultural backgrounds are substantially different from those of western countries.

Managerial implications

The study indicates that corporate reputation is devised to protect firms from excessive interpretation by stakeholders. A company's corporate reputation builds a relationship between the firms and its customers and firms can employ their corporate reputation to enhance the development of a sound relationship with their customers (see Shrum and Wuthnow 1988). This is based on the fact that corporate reputation is frequently used as a signal that contributes towards a thorough understanding of not just customers but, more importantly, of the key competitors of the firm (Milgrom and Roberts 1982). For this reason, corporate reputation is a device that can be devised to build a relationship between a company and all of its stakeholders.

In summary, companies can apply seven activities: that is, they should (1) strive to enhance its value-chain activity to make it consistent with experiential value creation, (2) allocate resources to be more consistent with experiential value creation, (3) try to enhance the customers' self-identity, (4) communicate more effectively with shareholders and other stakeholders to shape their perceptions about the firm, (5) build customer relationships, (6) negotiate with competitors to take advantage of joint resources and to ensure their product suits the market better, and (7) negotiate with the government to affect policy, all to improve their brand differentiation strategy and build best practice.

Limitations and future research

The study was not without limitations. First, this study is cross-sectional representing static relationships between variables in the researched framework. Second, the study was conducted in a single setting, which provided the researcher with a better control over market and environmental anomalies and industry effects, but this does limit the generalizability of findings. Third, this study used small-number sample size analysis because the entire number of targeted respondents is around 200 organizations.

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Table 1 Discriminant validity analysis and correlational coefficients of variables

Dimension	Value creation	Strategic resources	Corporate communication	Brand segmentation	Brand differentiation	Brand positioning	Medicine price	CR	AVE
								Composite Reliability (CR)	Average Variance Extracted (AVE)
Value creation	.777							0.945	0.469
Strategic resources	.829	.871						0.964	0.662
Corporate communication	.751	.745	.818					0.892	0.547
Brand segmentation	.730	.755	.805	.895				0.927	0.717
Brand differentiation	.796	.790	.825	.947	.839			0.909	0.590
Brand positioning	.826	.847	.762	.830	.867	.866		0.902	0.650
Product price	.546	.586	.484	.636	.579	.527	.836	0.924	0.577
Mean									
Variance									
Cronbach's α	0.938	0.955	0.840	0.896	0.874	0.851	0.906		

The diagonal value is the square root of AVE; CR represents Composite Reliability; AVE represents Average Variance Extracted; the lower triangle is Pearson correlation.

Table 2 Path coefficient value of moderating effects (Please show only two digits after the decimal point)

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics (O/STERR)	Test results
CC * PP -> BP	-0.216	-0.099	0.1554	0.1554	1.3903	Rejected
CC * PP -> BD	0.1658	-0.0225	0.1876	0.1876	0.8838	Rejected
CC * PP -> BS	0.1817	0.1042	0.1677	0.1677	1.0835	Rejected
SR * PP -> BP	-0.0692	-0.1219	0.1473	0.1473	0.4699	Rejected
SR * PP -> BD	0.0787	0.199	0.2213	0.2213	0.3556	Rejected
SR * PP -> BS	-0.1506	-0.0874	0.1804	0.1804	0.835	Rejected
VC * PP -> BP	-0.051	-0.0369	0.1416	0.1416	0.3603	Rejected
VC * PP -> BD	-0.3136	-0.0767	0.2066	0.2066	1.5176	Rejected
VC * PP -> BS	-0.2312	-0.1696	0.1937	0.1937	1.1933	Rejected

Table 3 Standardized path coefficients and hypothesis validation of the research model (numbers based on fourth round analysis)

Hypothesis	Path	Correlation between dimensions	Path coefficient	t-value	Test results
H1	β_1	Value creation \rightarrow Brand segmentation (VC \rightarrow BS)	0.39	2.71	Accepted
H2	β_4	Value creation \rightarrow Brand differentiation (VC \rightarrow BD)	0.25	2.38	Accepted
H3	β_7	Value creation \rightarrow Brand positioning (VC \rightarrow BP)	0.43	4.46	Accepted
H4	β_2	Strategic resources \rightarrow Brand segmentation (SR \rightarrow BS)	-	-	Rejected
H5	β_5	Strategic resources \rightarrow Brand differentiation (SR \rightarrow BD)	-	-	Rejected
H6	β_8	Strategic resources \rightarrow Brand positioning (SR \rightarrow BP)	0.50	5.41	Accepted
H7	β_3	Corporate communication \rightarrow Brand segmentation (CC \rightarrow BS)	0.40	2.76	Accepted
H8	β_6	Corporate communication \rightarrow Brand differentiation (CC \rightarrow BD)	0.64	7.19	Accepted
H9	β_9	Corporate communication \rightarrow Brand positioning (CC \rightarrow BP)	-	-	Partially supported
H10	β_{10}	Moderating effects of medicine price \rightarrow Brand image	-	-	Partially supported

Figure 1 Research conceptual framework (Please change fonts in Figure 1 to Ariel and provide Figure in a raw format).

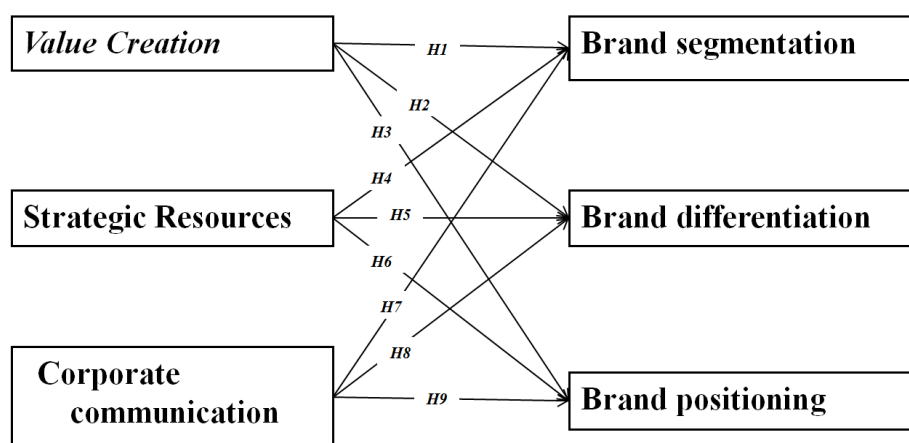


Figure 2 Path values (structural path relationships) and t-value (significance of structural path based on t-value) in brackets.

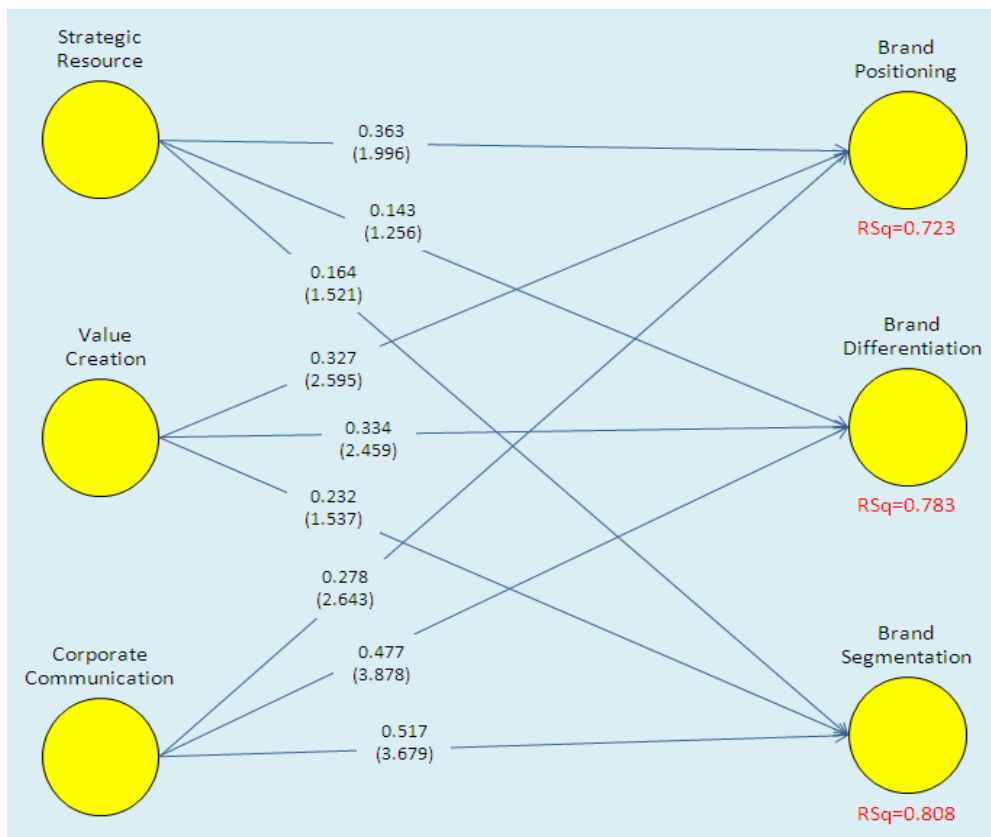
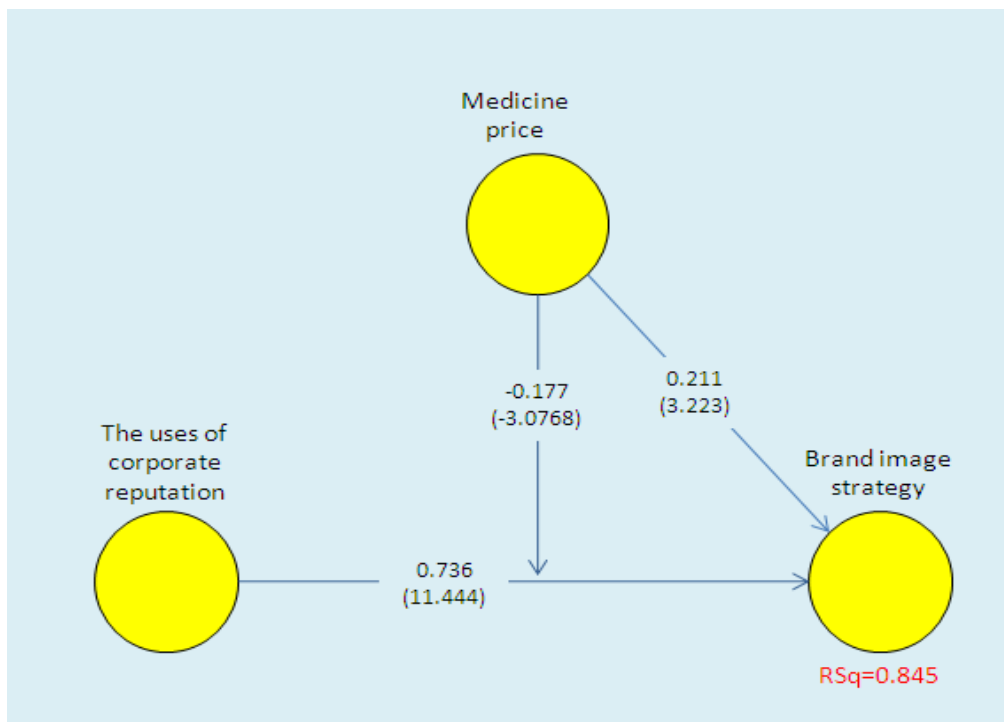


Figure 3 Moderating effect between the relationship of the uses of corporate reputation and brand image strategy (Please change fonts in Figure 3 to Ariel and provide Figure in a raw format).



Appendix A Descriptive analysis table of company statistics

Variable	Category of information	No. of samples	Percentage (%)	Cumulative percentage (%)
Firm history	(1) less than 10 years	3	4.92	4.92
	(2) 10–30 years	36	59.02	63.93
	(3) 30–50 years	16	26.23	90.16
	(4) 50–80 years	5	8.20	98.36
	(5) Over 80 years	1	1.64	100.00
Sales turnover	(1) < 1 million pounds	14	22.95	22.95
	(2) 1 million to 2.99 million sterling pounds (£)	17	27.87	50.82
	(3) 3 million to 9.99 million sterling pounds (£)	15	24.59	75.41
	(4) Over 10 million sterling pounds (£)	15	24.59	100.00
How many people work for your company?	(1) Fewer than 50 people	25	40.98	40.98
	(2) 51–100 people	15	24.59	65.57
	(3) 101300 people	14	22.95	88.52
	(4) More than 300 people	7	11.48	100.00
Which department do you belong to?	(1) Sales department	20	32.79	32.79
	(2) Marketing department	15	24.59	57.38
	(3) Management department	26	42.62	100.00
Which position do you hold in your company?	(1) Board chairman	3	4.92	4.92
	(2) General manager	10	16.39	21.31
	(3) Department manager	48	78.69	100.00
How many years have you worked in this company?	(1) Less than 1 year	4	6.56	6.56
	(2) 2–3 years	8	13.11	19.67
	(3) 4–10 years	21	34.43	54.10
	(4) 11–20 years	15	24.59	78.69
	(5) More than 20 years	13	21.31	100.00
Firm character (multiple choice)	(1) A foreign-owned company (American company)	1		
	(2) A foreign-owned company (European company)	0		
	(3) A foreign-owned company (Asian company)	2		
	(4) A trader company (American company)	7		
	(5) A trader company (European company)	9		
	(6) A trader company (Asian company)	22		
	(7) Local company	38		